

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

KEURIG GREEN MOUNTAIN, INC.,
Petitioner,

v.

TOUCH COFFEE & BEVERAGES, LLC,
Patent Owner.

Case IPR2016-01390
Patent 9,144,343 B2

Before CHRISTOPHER L. CRUMBLEY, CHRISTOPHER M. KAISER,
and MICHELLE N. ANKENBRAND, *Administrative Patent Judges*.

CRUMBLEY, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

A. Background

Keurig Green Mountain, Inc. (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–5 and 7–19 of U.S. Patent No. 9,144,343 B2 (Ex. 1001, “the ’343 patent”). Paper 2, “Pet.” Touch Coffee & Beverages, LLC (“Patent Owner”) filed a Preliminary Response. Paper 6, “Prelim. Resp.”

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314(b); 37 C.F.R. § 42.4(a). The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted unless “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

After considering the Petition, the Preliminary Response, and the evidence currently of record, we determine that Petitioner has not demonstrated that there is a reasonable likelihood that it would prevail with respect to at least one of the claims challenged in the Petition. Accordingly, we do not institute *inter partes* review.

B. Related Matters

The parties note that the ’343 patent is the subject of *Keurig Green Mountain, Inc. v. Touch Coffee & Beverages, LLC*, Case No. 1:16-CV-10142-DJC (D. Mass.). Pet. v; Paper 5, 1. Petitioner has challenged related patents in IPR2016-01392 and IPR2016-01396 (challenging U.S. Patent No. 9,149,149); IPR2016-01394 (challenging U.S. Patent No. 9,343,151); and IPR2016-01395 (challenging U.S. Patent No. 9,343,150). Pet. v; Paper 5, 1.

C. The Asserted Grounds of Unpatentability

Petitioner contends that claims 1–5 and 7–19 of the '343 patent are unpatentable under 35 U.S.C. § 103 as having been obvious, based on the following grounds (Pet. 5):

References	Challenged Claims
Castellani ¹ and Yoakim ²	1–5, 7–8, 10–11, and 13–18
Castellani, Rivera, ³ and Sylvan ⁴	1–5, 7–8, 10–11, and 13–18
Castellani, Yoakim, and Thomas ⁵	9 and 19
Castellani, Rivera, Sylvan, and Thomas	9 and 19
Castellani, Yoakim, and Cooke ⁶	12
Castellani, Rivera, Sylvan, and Cooke	12

Petitioner contends that Yoakim is prior art to the '343 patent under 35 U.S.C. § 102(a)(1),⁷ and Castellani is prior art under 35 U.S.C. § 102(a)(2). Pet. 15, 19. Petitioner does not make any affirmative statement

¹ WO 2013/153473 A1 to Castellani, published Oct. 17, 2013 (Ex. 1002).

² U.S. Patent No. 7,569,243 B2 to Yoakim et al., issued Aug. 4, 2009 (Ex. 1003).

³ U.S. Patent No. 9,232,871 B2 to Rivera, issued Jan. 12, 2016 (Ex. 1008).

⁴ U.S. Patent No. 5,325,765 to Sylvan et al., issued July 5, 1994 (Ex. 1009).

⁵ U.S. Patent No. 7,032,818 B2 to Thomas et al., issued Apr. 25, 2006 (Ex. 1010).

⁶ U.S. Patent No. 7,318,372 B2 to Cooke, issued Jan. 15, 2008 (Ex. 1011).

⁷ Petitioner contends that the '343 patent cannot claim a priority date earlier than March 15, 2013 and, therefore, is subject to the prior art provisions of 35 U.S.C. § 102 as amended by the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284, § 3(b)(1) (2011). Pet. 14. Patent Owner does not contend that the '343 patent is entitled to an earlier filing date, and we need not reach the issue for purposes of this Decision.

as to the prior art status of Rivera, Sylvan, Thomas, or Cooke. At this stage of the proceeding, Patent Owner does not challenge the prior art status of any of the asserted references, so we presume for purposes of this Decision that all references are prior art to the '343 patent.

D. The '343 Patent

The '343 patent “is directed to a beverage brewing system, and in particular, to a brewing system for making hot beverages.” Ex. 1001, 1:18–19. In particular, it “is directed to a cartridge system adapted to brew a beverage through a brewer having a brewing chamber adapted to receive the cartridge system.” *Id.* at 4:24–26. “The cartridge system may include a holder adapted to receive a first beverage cartridge and a second beverage cartridge,” where the second cartridge is taller than the first. *Id.* at 4:50–53. “The holder may also have a first needle and a second needle,” where “[t]he first needle may be adapted to pierce through the first beverage cartridge, and the second needle may be adapted to pierce through the second beverage cartridge.” *Id.* at 4:55–60. The design of the cartridges and the placement of the needles within the holder are such that each type of cartridge is only pierced by the needle designed to pierce it, and not by the other needle. *Id.* at 4:61–65. Those features are shown in Figures 7 and 11 of the '343 patent, which are reproduced below.

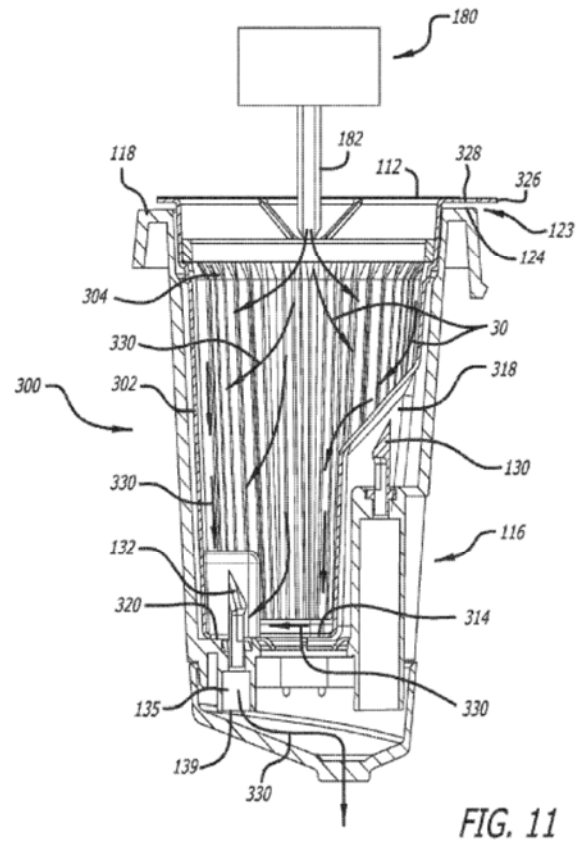
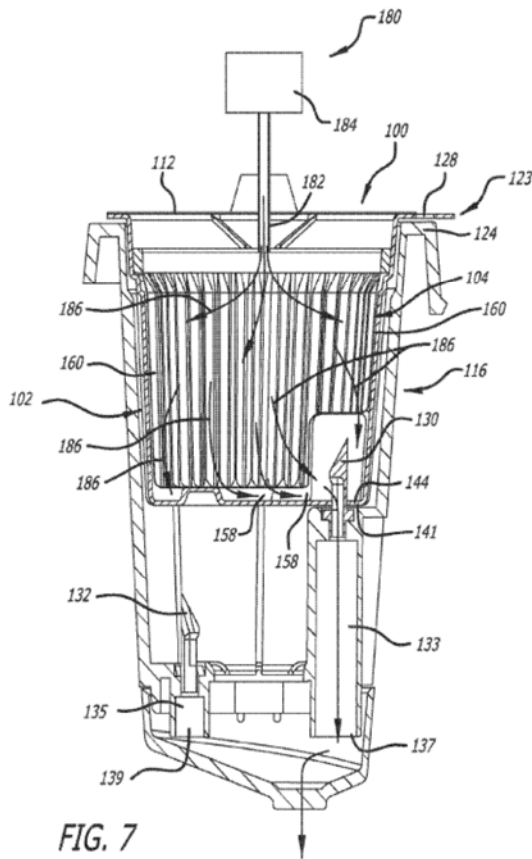


Figure 7 depicts holder 116 with short cartridge 100 inserted and being pierced by first needle 130 and not second needle 132. *Id.* at 10:15–16, 10:20–23. Figure 11 depicts the same holder with tall cartridge 300 inserted in place of the short cartridge of Figure 7. *Id.* at 13:12–13. The tall cartridge is pierced by second needle 132 but not by first needle 130. *Id.* at 13:18–23.

E. Illustrative Claim

Of the challenged claims in the '343 patent, claims 1 and 13 are independent. Claim 1 is illustrative of the challenged claims and reads as follows:

1. A beverage brewer and cartridge combination, comprising:
 - a first beverage cartridge having a beverage ingredient therein;
 - a second beverage cartridge, having a beverage ingredient therein, that is taller than the first beverage cartridge; and
 - a brewer including a cartridge holder, a movable cover having an open position, a partially open position and a closed position, a pump, an inlet needle operably connected to the pump, a first outlet needle, and a second outlet needle;
- wherein the first beverage cartridge and the brewer are respectively configured such that, when the first beverage cartridge is positioned within the cartridge holder, the inlet needle will pierce the first beverage cartridge, the first outlet needle will pierce the first beverage cartridge at a first fixed piercing location within the brewer, and the second outlet needle will not pierce the first beverage cartridge as the cover moves from the partially open position to the closed position; and
- wherein the second beverage cartridge and the brewer are respectively configured such that, when the second beverage cartridge is positioned within the cartridge holder, the inlet needle will pierce the second beverage cartridge, the first outlet needle will not pierce the second beverage cartridge, and the second outlet needle will pierce the second beverage cartridge at a second fixed piercing location within the brewer that is vertically offset from the first fixed piercing location as the cover moves from the partially open position to the closed position.

Id. at 36:23–53.

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, we construe claim terms in an unexpired patent according to their broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); see *Cuozzo Speed Techs. LLC v. Lee*, 136 S. Ct. 2131, 2144 (2016) (upholding

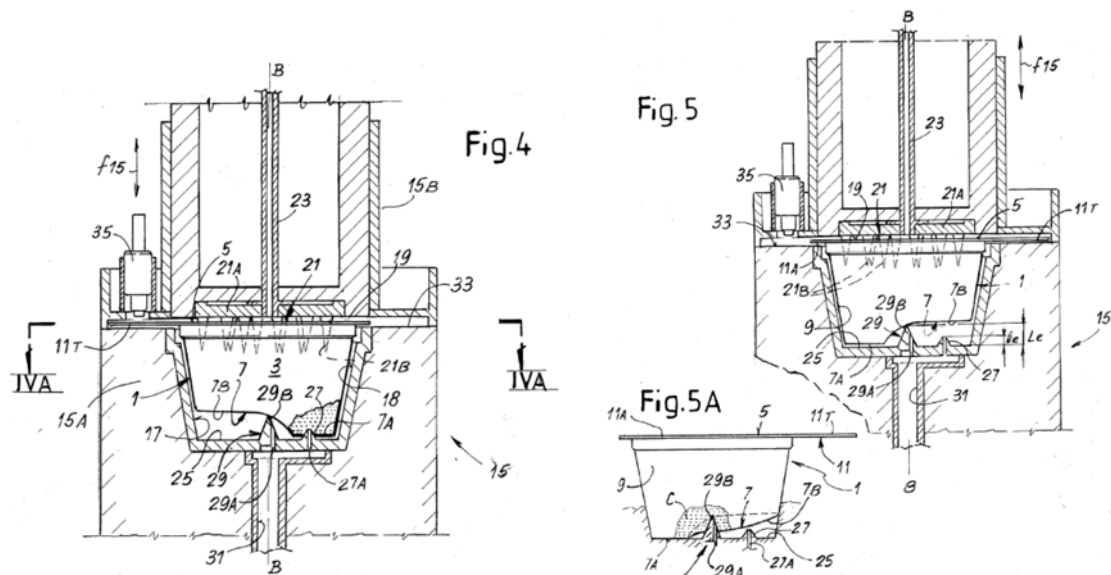
the use of the broadest reasonable interpretation standard). Claim terms generally are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Both parties ask that we construe four terms: “longitudinal extending discontinuity,” “beverage ingredient,” “vertically offset,” and “needle.” Pet. 10–13; Prelim. Resp. 11–12. But the parties do not disagree on the proper construction of any of those terms (Prelim. Resp. 12), and Petitioner concedes that construction of some terms is not determinative of any issue before us. Pet. 11, 13. Thus, there is no actual dispute over those terms for us to resolve, and we need not construe any of those terms expressly. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy”).

B. Asserted Obviousness over Castellani and Yoakim

Petitioner proposes three grounds of unpatentability based, at least in part, on the combination of Castellani and Yoakim: 1) that claims 1–5, 7–8, 10–11, and 13–18 would have been obvious to a person of ordinary skill in the art given the teachings of Castellani and Yoakim (Pet. 15–44); 2) that claims 9 and 19 would have been obvious given the teachings of Castellani, Yoakim, and Thomas (*id.* at 55–57); and 3) that claim 12 would have been obvious given the teachings of Castellani, Yoakim, and Cooke (*id.* at 57–58). As our decision on all three grounds turns on the combination of Castellani and Yoakim, we focus our discussion below on those references.

1. *Castellani*

Castellani teaches “capsules for producing a beverage, or more generally an edible product, by flowing hot and possibly pressurized water through the capsule, which contains at least one or more ingredients for the preparation of edible product.” Ex. 1002, 1:2–4. Specifically, Castellani teaches brewing two different types of coffee from the same cartridge. “Brewing espresso coffee requires flowing hot and pressurized water through the capsule containing coffee powder,” whereas “‘American coffee’ is usually produced by flowing a large amount of water at reduced or zero pressure across a coffee powder bed.” *Id.* at 1:14–19. Castellani purports to solve the problem of making those two types of coffee “having variable organoleptic characteristics using the same single-serving package.” *Id.* at 1:22–25. The disclosed method of doing so is illustrated in Figures 4, 5, and 5A of Castellani, which are reproduced below.



Figures 4 and 5 depict brewing chamber 15 with lower brewing chamber 15A including capsule recess 17. *Id.* at 10:15–24. Both figures show capsule 1 introduced into capsule recess 17. *Id.* at 10:22–24. Piercing

members 27 and 29, containing hollow ports 27A and 29A, respectively, are placed on the bottom of capsule recess 17 projecting upward. *Id.* at 11:12–15. Piercing member 29 projects further into capsule recess 17 than does piercing member 27. *Id.* at 11:26–29.

Capsule 1 may be introduced into capsule recess 17 in two alternative ways, one shown in Figure 4, and one shown in Figure 5. In Figure 4, capsule 1 is introduced so that wall portion 7A is pressed against piercing member 27, causing piercing member 27 to puncture wall portion 7A before brewing begins. *Id.* at 12:2–7. In Figure 5, capsule 1 is introduced so that wall portion 7A does not make contact with piercing member 27, and no puncturing of capsule 1 occurs before brewing begins. *Id.* at 12:8–12. As shown in Figure 5 (before brewing begins) and Figure 5A (after sufficient pressure develops inside capsule 1 during brewing), piercing member 29 does not puncture capsule 1 until sufficient pressure develops inside capsule 1 to deform wall 7. *Id.* at 12:13–23.

The two different possible orientations of capsule 1 in capsule recess 17 permit the same capsule to be used to conduct two different brewing operations. In the Figure 4 orientation, “water can flow at a relatively high flow rate and low pressure through the capsule.” *Id.* at 13:7–11. That produces “‘American’ coffee.” *Id.* at 13:12–13. In the Figure 5 orientation, “brewing will be performed at a higher water pressure and lower flow rate, obtaining for example an espresso coffee with a top cream layer.” *Id.* at 13:14–27.

Castellani describes other embodiments in which, in contrast to the embodiment illustrated in Figures 5 and 5A, piercing member 29 does partially or entirely perforate wall 7 of capsule 1 before brewing begins. *Id.*

at 12:13–13:4. Each of those embodiments, however, is described as not permitting any liquid to exit capsule 1 via port 29A until the pressure inside capsule 1 rises to a sufficient value to deform wall 7. *Id.*

2. *Yoakim*

Yoakim “relates to a device for preparing a food product from a capsule,” where the device is adapted to accommodate capsules of at least two different sizes. Ex. 1003, 1:41–54, Figs. 8–11. That allows a large capsule to be used to brew “a concentrated drink in a cup of large capacity,” rather than forcing a user “to use two capsules of product in succession to obtain the desired concentration.” *Id.* at 1:30–37. Each of Yoakim’s capsules has a flat bottom when placed into the brewing device. *Id.* at Figs. 3–6.

3. *Analysis*

Petitioner argues that a person of ordinary skill in the art would have found it obvious to combine the teachings of Castellani and those of Yoakim. Pet. 21–25. After reviewing the Petition, the Preliminary Response, and the evidence currently of record, we conclude that Petitioner has not shown sufficiently a reason to combine the teachings of Castellani and Yoakim.

Petitioner does not show sufficiently that a person of ordinary skill in the art would have had a reason to make all the modifications needed to make the combination of Castellani and Yoakim work as intended. Petitioner identifies several modifications that would have been necessary in order for the combination to work both with the unmodified Castellani cartridges and with the shorter cartridges of Castellani’s design modified with Yoakim’s flat bottom. Pet. 24 (discussing reprogramming Castellani’s

brewer to operate with tagless short cartridges and still retain Castellani's ability to brew different beverages from the same tall cartridge). In addition, Petitioner's declarant, Paul A. Phillips, testifies that "any modifications necessary to the piercing element 29" to enable coffee to be made using the modified cartridge would have been obvious. Ex. 1012 ¶ 69. But that testimony is insufficiently supported. It does not explain why Mr. Phillips is of the opinion that those modifications would have been obvious, nor does it even explain what those modifications would have been. "Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight." 37 C.F.R. § 42.65(a). Accordingly, the testimony of Mr. Phillips is insufficient to support the obviousness of the modifications to Castellani's piercing element 29 that would have been necessary for the brewer to make coffee.

An obviousness argument cannot succeed without Petitioner establishing a reason to combine the relevant references. There must be "some articulated reasoning with some rational underpinning" to combine the known elements in the manner required in the claim at issue. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). Because Petitioner does not provide adequate "articulated reasoning" with respect to Castellani and Yoakim, we determine that Petitioner has not established a reasonable likelihood of prevailing in showing the obviousness of the challenged claims over any proposed ground of unpatentability requiring the combination of Castellani and Yoakim.

C. Asserted Obviousness over Castellani, Rivera, and Sylvan

Petitioner proposes three grounds of unpatentability based, at least in part, on the combination of Castellani, Rivera, and Sylvan: 1) that claims 1–

5, 7–8, 10–11, and 13–18 would have been obvious to a person of ordinary skill in the art given the teachings of Castellani, Rivera, and Sylvan (Pet. 44–55); 2) that claims 9 and 19 would have been obvious given the teachings of Castellani, Rivera, Sylvan, and Thomas (*id.* at 55–57); and 3) that claim 12 would have been obvious given the teachings of Castellani, Rivera, Sylvan, and Cooke (*id.* at 57–58). Again, our analysis focuses on the combination of Castellani, Rivera, and Sylvan, as it is dispositive of those grounds.

1. Sylvan and Rivera

Sylvan discloses a beverage filter cartridge with a base, a cover, and a filter. Ex. 1009, 3:48–53, Fig. 1. The filter “contains coffee powder,” and the base “has the shape of an inverted truncated cone.” *Id.* Rivera incorporates Sylvan by reference and further describes Sylvan’s cartridge. Ex. 1008, 1:25–31, 2:28–43, Fig. 1. It describes the cartridge as having a flat bottom and a frusto-conical shape. *Id.* at 2:28–43, Fig. 1. The cartridge “includes a pierceable shell 14 and contains brewing material 16.” *Id.* at 2:32–33.

2. Analysis

Petitioner argues that a person of ordinary skill in the art would have found it obvious to combine the teachings of Castellani and those of Rivera and Sylvan. *Id.* at 45–46. After reviewing the Petition, the Preliminary Response, and the evidence currently of record, we conclude that Petitioner has not shown sufficiently a reason to combine the teachings of Castellani, Rivera, and Sylvan.

Petitioner does not show sufficiently that a person of ordinary skill in the art would have had a reason to make all the modifications needed to make the combination of Castellani, Rivera, and Sylvan work as intended.

Petitioner argues that the Castellani brewer would need little to no modification to work with the proposed flat-bottom cartridge. Pet. 46. But the evidence of record establishes that some modifications to the brewer would have been necessary, without establishing that those modifications would have been obvious to a person of ordinary skill in the art. Petitioner acknowledges that the size of the Castellani brewing chamber would need to be chosen properly, that Castellani's tag sensor would need to be moved, and that the Castellani brewer would need to be reprogrammed. *Id.* at 47–48. Mr. Phillips testifies that those modifications would have been obvious, Ex. 1012 ¶¶ 70–71, but, as with the testimony discussed above, that testimony is unsupported. Accordingly, it is insufficient to support the obviousness of the modifications Petitioner argues would have been necessary for the proposed combination to work properly.

In addition, Petitioner has not explained sufficiently how the teachings of Castellani and those of Rivera and Sylvan would have been combined to allow the Rivera/Sylvan cartridge to work with the Castellani brewer. As noted above, Petitioner argues that no changes to the Castellani brewing chamber other than changes to its size would be required to use the Castellani brewing chamber with the cartridges disclosed in Rivera and Sylvan. Pet. 46. That argument is supported by the testimony of Mr. Phillips. Ex. 1012 ¶ 70. Accordingly, Petitioner does not propose moving any part of the Castellani brewer from the locations described in Castellani. But the evidence of record establishes that Castellani's piercing element 29 is located so as to pierce the center of any cartridge inserted into the brewing chamber, while the cartridges disclosed in Rivera and Sylvan would not have worked if pierced in the center. Ex. 1002, Fig. 4A; Ex. 2011 ¶ 107.

Petitioner does not direct us to sufficient record evidence that explains how a person of ordinary skill in the art would have modified those apparently incompatible components to achieve compatibility.

Because Petitioner does not provide adequate “articulated reasoning,” we determine that Petitioner has not established a reasonable likelihood of prevailing in showing the obviousness of the challenged claims on the proposed grounds involving the combination of Castellani, Rivera, and Sylvan.

III. CONCLUSION

Upon consideration of the Petition, the Preliminary Response, and the evidence before us, we determine that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing that any of claims 1–5 and 7–19 is unpatentable. Accordingly, we do not institute *inter partes* review of those claims on any of the grounds advanced by Petitioner.

ORDER

It is hereby

ORDERED that, pursuant to 35 U.S.C. § 314, the Petition is denied, and no *inter partes* review is instituted.

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PETITIONER:

Richard F. Giunta
Robert E. Hunt
WOLF GREENFIELD & SACKS, P.C.
RGiunta-PTAB@wolfgreenfield.com
RHunt-PTAB@wolfgreenfield.com

PATENT OWNER:

Sang N. Dang
BLUE CAPITAL LAW FIRM, P.C.
sdang@bluecapitallaw.com